1. Introduction

Spices constitute an important group of agricultural produce. They are used in manufactures of medicines, cosmetics, condiments, sweets, beverages and preservatives. Many value added products such as oils and oleoresins, curry powders, beverages, pickles etc. are also produced from them. Almost all countries in the world including those which do not produce consume spices or spice products. Thus they have an important place in international market.

India is one of the largest producers and exporters of spices in the world. According to the Spices Board of India, there are fifty two varieties of spices cultivated in India. Pepper, cardamom, ginger, turmeric, nutmeg, clove, tamarind etc. are important among them. There is a total area of 2.3 million hectares of land under spices cultivation in India. Its annual production is estimated at 27 lakh tonnes valued at Rs. 1300 crores. More than 2.5 lakh farmers in rural areas of India are dependent on spices cultivation for livelihood and employment. The country has a share of about 44 per cent in quantity and 36 per cent in value in world spices trade.

The state of Kerala, situated on the south western tip of India, is also noted for the cultivation of spices. A large variety of spices such as pepper, cardamom, turmeric, ginger, tamarind, clove, cinnamon, vanilla etc are grown in the state in most of its districts. Among the spices cultivated in Kerala, black pepper popularly known as ‘black gold’ and cardamom, the ‘queen of spices’ are the two major ones. Kerala accounted for 95 per cent of the total pepper production in India in the year 2009-10 and its share in the cardamom production of the country during this period was as high as 78 per cent. Although there is cultivation of spices in most of the districts of Kerala, Idukki and Wyanad are the two districts where the cultivation is heavily concentrated.

Considering the importance of spices as a big foreign exchange earner of the country and as a source of livelihood for a good number of rural people, the Government of India set up the Spices Board of India in the year 1987. It is the apex institution for the development of spices sector in the country. Its functions consist of overall development of cardamom, post harvest improvement of all spices as well as their export promotion. For the benefit of cultivators other than cardamom, apart from post harvest improvement, the Board undertakes adaptive research, organizes planters' meet, imparts training on better production methods, encourages organic farming, conducts policy makers' workshops, etc.

2. Statement of the Problem

The Spices Board has been in the field serving cultivators and exporters since 1987. For the benefit of cultivators spread across the country, the Board is reported to have undertaken decentralization of its operations by establishing Regional, Zonal and Field offices as well as Marketing offices. The publications of the Board indicate its expansion both infrastructure wise and activity wise like setting up Bio-technology division, Spices clinic, Quality Evaluation Laboratories, Spices Parks, conducting World Spices Congress, imparting training on Good Agricultural Practices, commencement of e-auction for cardamom, arranging subsidy to farmers through e-payment, etc. However, various reports on spices sector indicate persistence of problems both in respect of cultivation and export.

Low productivity of many of the spices in India compared to that of other producing countries is a serious issue confronting spices cultivators. For instance, yield per hectare for pepper in Tailand is eleven times larger than that in India. Likewise, productivity of cardamom is 174 kgs per hectare in India while for Guatemala it is 315 kgs per hectare (Singh, 2007). Low productivity makes Indian spices costlier as well as less competitive in international market. Further, incidence of diseases and attack of pests, low input efficiency, senility of plants, non-popularization of elite cultivars and depletion of soil fertility continue to plague

spices plantations. It is also reported that this sector experiences lack of sufficient skilled labour and there is no long term investment for improving productivity (Jaimol, 2007).

In the sphere of international trade, entry of Vietnam, Indonesia, Malaysia, Brazil, Mexico, Sri Lanka, Tailand and Madagaskar in pepper trade and Guatemala in cardamom has caused stiff competition to India since such countries can offer them at lower prices (Radhakrishnan,1993). The new regulations imposed by the importing countries regarding quality cause headache to cultivators and exporters.

In the light of the above revelations, it has been proposed to conduct a detailed study on the working of the Spices Board of India and evaluate its role in the cultivation and export of spices. The problems faced by spices growers in marketing the produce have also been included in the study. The study is titled as "Role of Spices Board in the cultivation and export of spices: A study with particular reference to Kerala".

3. Objectives:-

The general objective of the study is to examine the contribution made by the Spices Board towards the development of spices sector in the country with reference to Kerala. In specific terms, the study brings to light:-

1. the origin and growth of Spices Board as well as evolution of its functions over the years;
2. areas of cultivation, cultivating and marketing practices, progress of organic farming, value addition and trends in exports;
3. the problems faced by growers in cultivation and marketing of spices; and
4. the role played by the Spices Board for the development of the two segments of spices sector such as cultivation and exporting.

4. Hypotheses

I. Majority of the farmers in spices still follow traditional and unscientific methods of cultivation resulting in lower productivity and poor earnings.

II. Low level of wages for workers in spices cultivation as well as strenuous work involved relative to those in other areas of economic activities in the vicinity as well as better working conditions there, fails to attract workers to the field of spices and thus the farmers are faced with labour scarcity.

III. Marketing of produce by the farmers in spices is unscientific and the chain of distribution between the farmers and ultimate consumers is characterized by the existence of a number of middlemen and this coupled with the undesirable practices followed by traders deprive the farmers of a major part of the price, the consumer pays.

IV. The Spices Board has been implementing schemes for the improvement of cultivation, post harvest processing and export of spices, but majority of cultivators and exporters have not been benefited by the schemes due to their defective implementation.

5. Research Methodology

The study is a descriptive one. It makes use of both primary data and secondary data. The secondary data for the study have been collected from the annual reports of Spices Board, various journals, bulletins, books, periodicals and reports published by the Spices Board, web sites, IPSTA, Chamber of Commerce, Directorate of Economics and Statistics and from other trade journals, newspaper, internet and published works. In addition to above, elaborate discussions with officials of Spices Board Kochi, research centre of Spices Board at Myladumpara, Idukki, IPSTA, and Market fed have been held.

The primary data are collected from the cultivators and exporters by using structured interview schedules. The schedules have been revised on the basis of the pilot study conducted to check the adequacy of questions included.

6. Sample Design

Although Kerala cultivates a variety of spices, pepper and cardamom are its major crops. They together account for about 50 per cent of total spices production in the state. In Kerala, the bulk of the output of these two crops comes from Idukki and Wayanad districts and their total shares in pepper and cardamom are 70 per cent and 97 per cent respectively of the state output. Besides, 70 per cent of the cardamom and pepper cultivators in Kerala belong to these two districts. Hence, for primary data collection these two districts were selected purposely. Further, from each of these two districts three Taluks were identified and data were collected from the systematically selected respondents of these Taluks. Hence, a purposive multistage systematic sampling was adopted for sample design.

According to Spices Board, there are 19585 cardamom cultivators in Idukki and Wayanad districts among whom 195 cultivators were chosen as sample for study by using the above stated statistical method. Directorate of Economics and Statistics estimates the total number of pepper growers in the two districts at 43030. A total of 408 cultivators were chosen form them for study by following the same method of sampling.

Primary data covers exporters in cardamom and pepper also. According to Spices Board, there are 60 such exporters in Kerala. From the total population of 60, alternative people were selected starting one at random thus making their number in the sample 30. The total number of respondents in the sample for study is 633 (603 cultivators and 30 exporters) and they comprise growers in pepper and cardamom as well as exporters.

7. Scope of the study

The present study has been undertaken to evaluate the role of the Spices Board in the cultivation and export of spices with reference to Kerala. The study covers cultivation and marketing practices of farmers, their problems in the area of cultivation and earnings of the farmers and utilization of schemes implemented by the Spices Board. The study enquires into the schemes mooted by the Board for the benefit of exporters and exporters' utilization of the same. It tries to trace the inadequacies in the implementation of schemes of the Spices Board meant for the farmers and exporters. Although there is cultivation of about ten varieties of spices in Kerala, cultivators of pepper and cardamom have been selected for collection of primary data in the light of the importance of these two crops in terms of export earnings and employment generation for the state.

8. Major Findings of the study

8.1 Findings on Constraints in Cultivation

1. Low level of education of farmers in spices (73.1%) deprives them of a progressive mind and this is an impediment to modernization efforts of the Spices Board in cultivation.
2. More than half the number of cultivators in the sample i.e., 53.9 per cent are above sixty years of age and those below forty years constitute only a meagre 13.1 per cent. This indicates the hesitation on the part of youngsters to adopt farming as an occupation.
3. Majority of farmers (89.7%) are small possessing only less than two hectares of land and thus are unable to reap the economies of large scale operation.
4. 73 per cent cultivators follow intercropping, but countries with higher productivity are found practising mono crop type of cultivation.
5. The percentage of cultivators who do organic farming regularly is only 5.8. Expensive nature of organic farming is stated as the reason by farmers for very little progress in this field.

6. Cultivators who have adopted modern cultivation practices form only 17.2 per cent and the rest are observed practising cultivation on traditional methods.
7. Construction of contour bunds along with terracing recommended for prevention of soil erosion due to floods has been done by only 19.2 per cent farmers. To overcome severe drought conditions, only 25.7 per cent possess irrigation facilities like ponds, rain water harvesting etc. Thus cultivation for vast majority is subject to vagaries of nature.
8. 64.8 per cent farmers used to apply high dosage of fertilizers due to their mislaid notion that the high dosage brings more production.
9. Despite the reasonably good coverage of cultivating areas by the branches of commercial banks and co-operative banks, a good number of farmers i.e., 41.5 per cent are still dependent up on non-institutional sources of finance.
10. The majority of farmers have opined bank formalities as difficult and cumbersome.
11. The farmers reported that the farm finance provided by banks is quite inadequate for their requirements.
12. The percentage of farmers who make regular repayment of loan is just 12.4 per cent. Reasons advanced by farmers for irregular repayment are fluctuations in yield due to diseases, pests and climatic variation and price dwindling leading to diversion of loan for purposes such as daily livelihood, treatment of diseases, marriage of children and utilization of new loan for settlement of old one.
13. Labour scarcity is reported as a major problem by almost all the farmers. The reasons for labour scarcity are development of alternative employment opportunities with better wages or working conditions as well as decline in the migration of Tamilians from the border districts to spice plantations.
14. Asked about the trend in area of cultivation, majority of farmers reported it as declining.
15. Regarding the trends in output and earnings, majority of farmers reported them as highly fluctuating.

16. During the period of study, there was a massive increase in prices of inputs. The farmers remarked that the increase in the price of produce is insufficient to compensate the hike in input prices.

17. 84.9 per cent farmers expressed pessimism on the future prospects of spices cultivation under existing conditions.

8.2 Findings on Constraints in Marketing

1. Majority of cultivators depend on local merchants for the sale of their produce.
2. The practice of taking advance from merchants by farmers in times of cultivation and the distance of terminal markets and auction centers in the case of cardamom are reasons for such high dependence.
3. Undue deduction from the price by way of transportation and labour charges of the produce to terminal markets and refusal of merchants to give farmers the price of good quality produce even when such produce is offered, are the unfair practices noticed on the part of merchants.
4. Since rural people have no access to web sites of the Board and IPSTA, they fail to get timely information about price fluctuations.
5. Price instability for the produce is a major problem causing variations in the earnings of farmers, thus landing them in severe difficulties.
6. There are no co-operative agencies worth doing any valuable services to growers for marketing their produce.

8.3 Findings on Evaluation of the Role of Spices Board in Cultivation

1. Assistance in the form of subsidy is extended by the Board to growers of cardamom and pepper to enable them to take up programmes aimed at improving production and productivity. These programmes and percentage of farmers who have utilized each of these programmes are:- Replantation- 22.4 per cent, Rejuvenation- 19.9 per cent, Development of Nurseries -5.8 per

cent, Provision for Irrigation-22.6 per cent and Rain Water Harvesting-19 per cent.

2. In order to encourage spices growers to change over to organic farming, the Board offers subsidy for taking up organic farming, subsidy for setting up Vermi-compost units and subsidy for certification and the percentages of farmers who have made use of them are 11 per cent, 10.4 per cent and 5.4 per cent respectively.
3. For the post harvest improvement of cardamom, Improved Cardamom Curing Houses have been developed by the Board and financial help is provided to cardamom cultivators for their installation. Only 19.5 per cent of the growers in the sample are observed to have installed this new device making use of Board's assistance.
4. Power operated pepper threshers which reduce labour and increase productivity are introduced by the Spices Board and to enable growers to acquire this machine, a subsidy scheme is operated by the Board, but only 22 per cent of respondents are found to have acquired the machine making use of subsidy.
5. For the sake of improving the post harvest processing of spices other than cardamom, the Board extends subsidy for construction of drying yards and supplies polythene sheets at subsidized rates. The respective percentages of farmers who have utilized these two schemes and acquired the facilities are 19 per cent and 21.8 per cent.
6. Regarding poor utilization, respondents reported different causes. The causes reported and the percentages of respondents who have pointed out each of such causes are:-(a) Lack of publicity, 21.4 per cent; (b) Lack of land possession certificate, 30 per cent; (c) Complicated procedure for availing loan, 19.3 per cent and (d) Lack of initial funds, 29.3 per cent.
7. Attendance to the training programmes conducted by the Board on modern methods of farming is :-(i) Regularly attending- nil (ii) At times- 21.2 per cent and (iii) Never attended- 78.8 per cent.

8. As to the causes for poor participation, 14.1 per cent of respondents reported lack of confidence in the programme while 23.1 per cent pointed out lack of time and the remaining 62.8 per cent as lack of interest.
9. For transfer of technical know how, field officers are expected to make visits to the farms of growers. While 26.7 per cent of the farmers studied are reported to have received support in this regard, the rest 73.3 per cent denied having received any such support.
10. Lack of support for technical knowledge from the Board forces growers to depend on private agencies and the percentage of such dependents is 57.4.
11. Only 23.1 per cent of cardamom growers in the study are making use of planting materials developed by ICRI of the Board. 76.9 per cent resort to varieties developed by individuals.
12. 20 per cent cardamom cultivators in the sample expressed satisfaction in the working of research institutions while the remaining 80 per cent termed it as negative.

8.4 Findings on Evaluation of the Role of Spices Board in Export of Spices

For the development of export market, the schemes operated by the Spices Board fall under three heads such as (1) Market Development Schemes (2) Schemes for Trade Promotion and (3) Schemes for Product Development and Quality Up gradation.

1. Market Development Schemes aim at assuring the quality of Indian spices or spice products exported. Towards this objective, Spices Board has developed 'Indian Spices Logo' which the exporters can use in case they consign spices in consumer packs. Those who export in bulk are issued 'Spice House Certificates'. To assist exporters who want to send products in their own branded consumer packs and to protect their individual brands, Board has introduced a scheme to register them with it. All these facilities are provided on the stringent condition that they build necessary infrastructure facilities for quality produce and employ a perfect quality control system at all stages of

processing. The Board extends financial assistance for establishing necessary infrastructural facilities and the percentages of exporters who are eligible for the use of Spices Logo are 53.3 per cent and Spice House Certificates 83.3 per cent and those who have registered their individual Brand Name 53.3 per cent.

2. Trade Promotion Schemes are intended to enable exporters: (i) to participate in international fairs and exhibitions (ii) to participate in meetings and seminars (iii) to send business samples abroad to achieve clarity in dealings and avoid future disputes and (iv) to print and circulate promotional literatures to project competence.

3. Financial assistance extended by the Board to exporters to participate in international fairs and exhibitions as well as meetings and seminars is in the form of reimbursement up to 50 per cent of air fare incurred by them. For sending business samples abroad and printing and circulating promotional literatures, loans are provided up to 50 per cent of the cost involved for each. The percentages of exporters who have adopted these promotional measures availing the schemes are:-73.3 per cent for Fairs and Exhibitions, 92 per cent for Meetings and Seminars, 53.3 per cent for sending Business Samples and 63.3 per cent for printing and despatch of Brochures.

4. The Board extends financial support to exporters for Product Development and Research, Quality Certification and Analytical Services for spices and spice products as well as for adoption of hi-tech in Spice Processing. Financial support takes the form of interest free loan to exporters for product development, charging nominal fee for analytical services and subsidy of 33 per cent for cost for establishing hi-tech processing. 53.3 per cent exporters have utilized the scheme for product development, 100 per cent of exporters, the scheme for analytical services while the percentage of exporters benefited by the scheme for hi-tech processing comes to 60.

5. The reasons stated by exporters for underutilization of Product Development and Quality Up gradation Schemes and the percentages of exporters who have expressed each of such views are; (1) Lack of Initial Funds, 26.7 (2) Complicated Procedures, 20 and (3) Lack of time to spare, 53.3.

Conclusion

The study confirms the persistence of problems in cultivation of spices such as traditional methods of farming, insufficient workers, inadequate finance, hike in prices of inputs, application of overdose of fertilizers, fluctuations in output and earnings etc. sale to local merchants and local merchants making undue deduction from sale price by way of transporting cost to terminal markets, lack of prompt information about price fluctuations etc. are the problems faced by farmers in marketing. The schemes being implemented by the Spices Board for improvement of production and productivity as well as post harvest processing have been poorly utilized by cultivators. In no case, the percentage utilization goes beyond 25. This proves the hypothesis **"The Spices Board has been implementing schemes for the improvement of cultivation and post harvest processing of spices, but majority of cultivators have not been benefited by the schemes due to their defective implementation".** However, the schemes for export promotion are better utilized by exporters. The percentage utilization of various schemes ranges from 50 to 100. The Board is observed to be playing an effective role in regard to export promotion. Hence, the hypothesis "**majority of exporters have not been benefited by the schemes due to their defective implementation''** is not true.